LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method of determining a rotor angle in a drive control for a motor, comprising the steps of:

a) estimating the rotor angle on the basis of the rotor magnetic flux in the motor; and

b) correcting the estimated rotor angle on the basis of reactive power input to the motor;

wherein step (a) further comprises the step of (a1) estimating the rotor angle during motor start-up according to a predetermined motor load model in conjunction with a start-up sequencer.

2. (Canceled)

3. (Previously Presented) The method of claim 1, wherein said load model is representative of motor acceleration torque.

4. (Original) The method of claim 3, wherein said model is responsive to load torque current feedback (iq).

5. (Original) The method of claim 3, wherein said load model is representative of friction torque.

6. (Original) The method of claim 5, wherein said model is responsive to motor frequency (We).

7. (Previously Presented) The method of claim 1, wherein said step (a1) terminates at an adjustable percentage of rated motor frequency.

8. (Original) The method of claim 7, wherein said adjustable percentage is about 10 percent.

9. (Previously Presented) The method of claim 1, wherein said step (a1) is carried out in open-loop mode and terminates at a transition from open-loop mode to closed-loop mode.

10. (Previously Presented) A method of determining a rotor angle in a drive control for a motor, comprising the steps of:

a) determining a rotor magnetic flux in the motor; and

b) estimating the rotor angle on the basis of the rotor magnetic flux in the motor, and during motor start-up according to a predetermined motor load model in conjunction with a start-up sequencer; and

c) correcting the estimated rotor angle on the basis of reactive power input to the motor;

wherein step (a) includes the step of non-ideal integration of stator voltage and current values.

11. (Original) The method of claim 10, wherein said load model is representative of motor acceleration torque.

12. (Original) The method of claim 11, wherein said model is responsive to load torque current feedback (iq).

13. (Original) The method of claim 11, wherein said load model is representative of friction torque.

14. (Original) The method of claim 13, wherein said model is responsive to motor frequency (We).

15. (Original) The method of claim 10, wherein said step (b) terminates at an adjustable percentage of rated motor frequency.

16. (Original) The method of claim 15, wherein said step (b) terminates at about 10% of rated motor frequency.

17. (Original) The method of claim 10, wherein said step (b) is carried out in open-loop mode and terminates at a transition from open-loop mode to closed-loop mode.

18. (Original) The method of claim 10, wherein step (a) further includes the step of correcting phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F).

19. (Previously Presented) A system for determining a rotor angle in a drive control for a motor, comprising:

a first circuit for estimating a rotor angle on the basis of rotor magnetic flux in the motor; and

a second circuit for correcting the estimated rotor angle on the basis of reactive power input to the motor;

wherein said first circuit further estimates the rotor angle during motor start-up according to a predetermined motor load model in conjunction with a start-up sequencer.

20. (Canceled)

21. (Previously Presented) The system of claim 19, wherein said load model is representative of motor acceleration torque.

22. (Original) The system of claim 21, wherein said model is responsive to load torque current feedback (iq).

23. (Original) The system of claim 21, wherein said load model is representative of friction torque.

24. (Original) The system of claim 23, wherein said model is responsive to motor frequency (We).

25. (Previously Presented) The system of claim 19, wherein said estimating step terminates at an adjustable percentage of rated motor frequency.

26. (Original) The system of claim 25, wherein said estimating step terminates at about 10% of rated motor frequency.

27. (Previously Presented) The system of claim 19, wherein said estimating step is carried out in open-loop mode and terminates at a transition from open-loop mode to closed-loop mode.

28. (Previously Presented) A system for determining a rotor angle in a drive control for a motor, comprising:

a) a first circuit for determining a rotor magnetic flux in the motor; and

b) a second circuit for estimating the rotor angle on the basis of the rotor magnetic flux in the motor, and during motor start-up according to a predetermined motor load model in conjunction with a start-up sequencer; and

c) correcting the estimated rotor angle on the basis of reactive power input to the motor;

wherein said first circuit carries out non-ideal integration of stator voltage and current values.

29. (Original) The system of claim 28, wherein said load model is representative of motor acceleration torque.

30. (Original) The system of claim 29, wherein said model is responsive to load torque current feedback (iq).

31. (Original) The system of claim 29, wherein said load model is representative of friction torque.

32. (Original) The system of claim 31, wherein said model is responsive to motor frequency (We).

33. (Original) The system of claim 28, wherein said estimating step terminates at an adjustable percentage of rated motor frequency.

34. (Original) The system of claim 33, wherein said estimating step terminates at about 10% of rated motor frequency.

35. (Original) The system of claim 28, wherein said estimating step is carried out in open-loop mode and terminates at a transition from open-loop mode to closed-loop mode.

36. (Original) The system of claim 28, wherein said second circuit corrects phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F).

37. (Previously Presented) The method of claim 1, wherein said correcting step is performed by calculating a first reactive power input value and a second reactive power input value; determining a relation between said first and second reactive power input values; and applying said relation to the rotor angle estimated in the estimating step to obtain the corrected rotor angle.

38. (Previously Presented) The method of claim 1, wherein said estimating step includes the step of non-ideal integration of stator voltage and current values, and the step of correcting phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F).

39. (Previously Presented) The method of claim 10, wherein said step of correcting the estimated rotor angle on the basis of reactive power input to the motor is carried out_by calculating a first reactive power input value and a second reactive power input value; determining a relation between said first and second reactive power input values; and applying said relation to the rotor angle estimated in step (b) to obtain a corrected rotor angle.

40. (Previously Presented) The method of claim 10, wherein step (b) includes the step of correcting phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F).

41. (Previously Presented) The system of claim 19, wherein said second circuit corrects the estimated rotor angle on the basis of reactive power input to the motor, by calculating a first reactive power input value and a second reactive power input value; determining a relation between said first and second reactive power input values; and applying said relation to the rotor angle estimated in said estimating step to obtain a corrected rotor angle.

42. (Previously Presented) The system of claim 19, wherein said first circuit carries out non-ideal integration of stator voltage and current values; and

wherein said second circuit corrects phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F).

43. (Previously Presented) The system of claim 28, wherein the estimated rotor angle is corrected on the basis of reactive power input to the motor, by calculating a first reactive power input value and a second reactive power input value; determining a relation between said first

and second reactive power input values; and applying said relation to the rotor angle estimated in step (b) to obtain a corrected rotor angle.

44. (Previously Presented) The system of claim 28, wherein said second circuit corrects phase errors caused by said non-ideal integration via a PLL circuit with phase compensation (F).

45. (New) The method of claim 4, wherein said model applies a predetermined gain multiplier to said load torque current feedback.

46. (New) The method of claim 6, wherein said model applies a predetermined gain multiplier to said motor frequency.

47. (New) The system of claim 22, wherein said model applies a predetermined gain multiplier to said load torque current feedback.

48. (New) The system of claim 24, wherein said model applies a predetermined gain multiplier to said motor frequency.